August 19, 2021

Ann Bailey, Director
ENERGY STAR Product Labeling
Washington, DC 20004
Submitted via email: MostEfficient@energystar.gov

RE: Comments on Proposed Recognition Criteria for ENERGY STAR Most Efficient 2022

Dear Director Bailey,

Thank you for the opportunity to comment on the proposed recognition criteria for the 2022 ENERGY STAR Most Efficient designation.[1] Evergreen Action is a national non-profit leading the fight to put bold climate action at the top of America's agenda, implement an all-out mobilization to defeat climate change and create millions of jobs in a clean energy economy. Evergreen Action supports the ENERGY STAR program and the Most Efficient Designation to promote and drive the market of advanced technology products that meet consumer needs for performance, cost effectiveness, and create additional environmental benefits. We especially support the criteria developed for air-source and geothermal heat pumps. The widespread adoption of these zero-emission all-electric technologies will be essential to achieving America's greenhouse gas (GHG) pollution, air quality, and energy affordability goals.

However, we are concerned that the continued inclusion of natural gas, or better termed "fossil gas," products in the criteria no longer meets the program's goals. The Most Efficient Designation exists to point out cutting edge technology that reduces pollution such that consumers can make informed choices. But fossil gas boilers, dryers, and furnaces are no longer cutting edge products, nor do they effectively reduce pollution. **As such, we recommend that fossil gas boiler, dryer, and furnace products be withdrawn from the 2022 (and all future) Most Efficient Criteria.** Alternatively, if the agency does not remove fossil gas products, we recommend reforming the structure of the program in 2023 to better achieve the program's goals.

Efficient Gas Furnaces Are No longer At The Leading Edge of Technology Advancement, Making Them A Poor Fit For The Most Efficient program

One of the main goals of ENERGY STAR's Most Efficient Designation is to inform environmentally conscious and early adopting consumers concerned with their communities' environment and health about the "best of the best" in energy efficiency

[1] U.S. Environmental Protection Agency, *Memo*: ENERGY STAR *Most Efficient* 2022, July 8, 2021, See: https://www.energystar.gov/sites/default/files/EPA%20Memo%20ENERGY%20STAR%20Most%20Efficient%202022.pdf.

products.[2] The Most Efficient designation should be reserved for the technologies that have "demonstrative efficiency performance that is truly exceptional, inspirational, or leading edge."[3]

The proposed 2022 criteria for fossil gas furnaces do not meet the program's goal. The proposed fossil gas furnace criteria is the same efficiency level—97% annual fuel utilization efficiency (AFUE)—as when the program launched in 2011.[4] Additionally , there are over 2,220 ENERGY STAR qualified furnaces that meet or exceed a 95% AFUE rating,[5] making these products widely available for consumer adoption, thus not meeting the program's "leading edge" requirement.

Given the wide availability of fossil gas fired furnaces that are within 2% efficiency of the 2022 proposed Most Efficient criteria (i.e., 97% AFUE), the high market penetration of the ENERGY STAR technology (approximately 30%[6]) and the availability of more efficient technologies to provide the energy service that fossil gas furnaces provide (*i.e., space heating*), we request that the furnace be withdrawn from the 2022 criteria.

Recognizing Gas-Fired Products As Most Efficient Conflicts With the Program's Goal of Reducing Pollution

In addition, a central goal of the ENERGY STAR Most Efficient Designation is to reduce air pollution. While efficient technologies can help with that goal, in the face of market and energy system changes, these efficiency improvements are sometimes a less effective mechanism to reduce pollution than installing a zero-emission technology. This is the case with fossil gas products.

Fossil gas products are one of the main contributors to GHG pollution and air quality pollution. In 2017, commercial and residential buildings overtook coal plants as one of the main contributors to air quality pollution, causing approximately 18,300 early deaths and $205 billion in health impacts.[7] And in 2019, commercial and residential

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[2] ENERGY STAR Most Efficient 2021 Update and 2022 Proposed Criteria Stakeholder Webinar, slide 3, July 29, 2021, See: https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Most%20Efficient%202022%20Stakeholder%20Webinar_FINAL.pdf; EPA, *Memo*: ENERGY STAR Most *Efficient* 2022, at 2, July 8, 2021, https://www.energystar.gov/sites/default/files/EPA%20Memo%20ENERGY%20STAR%20Most%20Efficient%202022.pdf.

[3] U.S. Environmental Protection Agency 2011 Stakeholder Memo, See: https://www.energystar.gov/sites/default/files/asset/document/Most_Efficient_Cover_Letter.pdf

[4] ENERGY STAR Most Efficient Eligibility for Recognition Residential Furnaces 2011, See: https://www.energystar.gov/sites/default/files/asset/document/Most_Efficient_Criteria_Furnaces.pdf

[5] ENERGY STAR Certified Furnaces Database, Accessed August 11, 2021, See: https://data.energystar.gov/Active-Specifications/ENERGY-STAR-Certified-Furnaces/i97v-e8au/data

[6] ENERGY STAR ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2019 Summary, p. 5, See: https://www.energystar.gov/sites/default/files/asset/document/2019%20Unit%20Shipment%20Data%20Summary%20Report.pdf

[7] A decade of the U.S. energy mix transitioning away from coal: historical reconstruction of the reductions in the public health burden of energy, See: https://iopscience.iop.org/article/10.1088/1748-9326/abe74c

building appliances generated 598 million metric tons of GHG pollution, accounting for approximately 11% of national emissions.[8]

While the installation of seemingly "more efficient" fossil gas appliances can marginally improve air quality and reduce GHG pollution, zero-emission all-electric appliances (like heat pumps) actually eliminate pollution. In order for the Most Efficient Program to serve its mission of providing consumers with information to help them make choices that protect their health and the environment, fossil gas boilers, dryers, and furnaces should be withdrawn from the 2022 criteria.

Removing Fossil Gas Products Aligns With The Program's Target Audience Preferences

Consumers have demonstrated they are eager for these cutting-edge products. Multiple state and national surveys have documented that a majority of Americans support the transition from fossil gas to zero-emission all-electric appliances. A 2020 poll completed by FM3 research found that over 70% of California participants supported home appliances that were powered by clean electricity.[9] A June 2021 national poll completed by Data for Progress and Rewiring America found 65% of likely voters would prefer federal investments to provide consumer rebates for purchasing and installation of zero-emission electric appliances.[10]

Now, the Most Efficient Program should communicate that these technologies are indeed the most efficient technology and are the most effective means of reducing pollution by removing fossil gas products from consideration.

In the Alternative, The Most Efficient Designation Should Be Restructured to Focus on Most Efficient End-Uses or Energy Services Provided Starting in 2023

If the ENERGY STAR program is unwilling to remove fossil gas products, we suggest that the ENERGY STAR Most Efficient program transition to end-use or energy service categorization to better achieve the program's goals.

As noted earlier, the Most Efficient Program is meant to promote the best of the best "in energy efficiency products to consumers." But the current program design fails to do so by promoting the most efficient technology by the appliance and fuel type, instead of the most efficient technology by end-use or energy service provided. This makes the program's target audience responsible for muddling through comparisons for which technology is in fact the most efficient technology. This structure should be

[8] U.S. Energy-Related Carbon Dioxide Emissions, 2019, See: https://www.eia.gov/environment/emissions/carbon/
[9] FM3 Resarch's 2020 California Voter Views of Building Decarbonization Report, p.2. See: https://fm3research.com/wp-content/uploads/2020/03/California-Electrification-Survey-Results-Memo.pdf
[10] Federal Investments in Household Electrification Enjoy Bipartisan Support, p.6. See: https://www.filesforprogress.org/memos/federal-investments-in-household-electrification.pdf

reformed to instead group technologies by end-use or energy service provided (*i.e.*, space heating, water heating, clothes drying, etc.).

By focusing on end-use or energy service provided instead of the appliance and fuel type, the program would more clearly promote the "best of the best" technologies, making it easier for consumers to make informed choices. For example, in a reformed "space heating" category, consumers would understand that the Most Efficient heat pumps provide space heating more efficiently than even the most efficient fossil gas furnaces. Or in a reformed "clothes drying" category, consumers could note that zero-emission electric dryers meet the Combined Energy Factor (CEF) requirement of 3.8 lbs/kWh[11], while no fossil gas clothes dryers do.

Recategorizing the program would also enable end-uses, or energy services, currently not included on the Most Efficient list to be included. One end-use, or energy service, not including that should be included starting in 2023 is water heating. Water heating accounts for approximately 19% of energy use, 16% of utility bill expenditures of American households, and is second only to space heating for total annual energy consumption.[12] Given these facts, it is an unfortunate oversight or decision by the Most Efficient program to not include high efficiency water heating technologies, such as heat pump water heaters.

For these reasons, we request Energy Star restructure the Most Efficient program to better align the program's goal of promoting the highest efficiency technologies regardless of appliance and fuel type.

Thank you for considering these comments, and we hope you will take these important steps to better align the ENERGY STAR Most Efficient program with the program's stated goals.

Sincerely,

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[11] EPA, *Memo: ENERGY STAR Most Efficient 2022*, at 6, July 8, 2021, See: https://www.energystar.gov/sites/default/files/EPA%20Memo%20ENERGY%20STAR%20Most%20Efficient%202022.pdf.
[12] Space heating and water heating account for nearly two thirds of U.S. home energy use, 2018, See: https://www.eia.gov/todayinenergy/detail.php?id=37433